

REMARKS/ARGUMENTS

After the foregoing Amendment, claims 1 and 2 are pending in this application. Claims 1 and 2 have been amended to specifically state that the motor is an interchangeable optical disk drive motor. Support for this amendment can be found throughout the specification and in the figures of the application. Claims 1 and 2 have been further amended to delete the subject matter reciting that "said interchangeable optical disk is driven for rotation at a frequency higher than the primary resonance frequency of wobbling vibrations of said interchangeable optical disk loaded by the user." Accordingly, no new matter has been added.

Claim Rejection – 35 U.S.C. § 112, Second Paragraph:

The Examiner has rejected claims 1 and 2 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner states that both claims 1 and 2 recite in the preamble "an optical disk drive apparatus for recording or reproducing an interchangeable optical disk," and that the claims later refer to the disk as "said interchangeable optical disk." The Examiner further states that the preamble merely sets forth intended use language and does not positively recite that the optical disk is part of the claimed invention. The Examiner contends that the metes and bounds of the claims are not readily ascertainable at this time. Applicants respectfully traverse this rejection in view of the foregoing amendment.

Applicants have amended claims 1 and 2 to delete two references to "said interchangeable optical disk" in each claim. The remaining reference to "said interchangeable optical disk" is recited within a wherein clause in each of amended claims 1 and 2 and is, therefore, not positively recited within the body of either claim 1 or 2. Because amended claims 1 and 2 no longer positively recite that the optical disk is part of the claimed invention, it is believed that the metes and bounds of claims 1 and 2 are now readily ascertainable. For this reason, it is respectfully submitted that claims 1 and 2, as amended, are in full compliance with 35 U.S.C. § 112, second paragraph. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Claim Rejection – 35 U.S.C. § 103:

The Examiner has rejected claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,731,777 (Yoshitoshi et al.) in view of U.S. Patent No. 5,829,318 (Hannah et al.). The Examiner contends that Yoshitoshi et al. discloses an optical disk player which readily loads/unloads an interchangeable optical disk, including a motor/rotor 3 to rotate the disk. The Examiner admits that Yoshitoshi et al. is silent as to a balancer mounted rotatably with the optical disk. However, the Examiner cites Hannah et al. as disclosing a motor/rotor including a balancer mounted rotatably with a rotor and having a hollow ring member 34 containing a rotatable balancing member 40 therein and having a center axis positioned substantially concentrically with a rotational center axis of said motor and/or mounted in an integral fashion with the spindle shaft 32. The Examiner contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the favorable balancing characteristics, as taught by Hannah et al., into the motor device 3 of Yoshitoshi et al. The Examiner contends that it would have been evident to a skilled artisan that reducing any rotating unbalance and mechanical vibration of the motor/rotor would provide consistent input/output for the optical head. The Examiner has taken Official Notice that the recitation of the interchangeable optical disk driven for rotation at a frequency higher than the primary resonance frequency of wobbling vibrations of said interchangeable optical disk loaded by the user is notoriously old and well known in this art, in order to properly balance the device, which would have been readily apparent to a skilled artisan. The Examiner cites U.S. Patent No. 5,111,713 (Cameron et al.) as providing support for the assertion of this Official Notice. Applicants respectfully traverse this rejection in view of the foregoing Amendment.

Claim 1, as amended, recites:

An interchangeable optical disk drive motor in an optical disk drive apparatus for recording or reproducing an interchangeable optical disk, comprising:

a balancer mounted rotatably with a rotor, and having a hollow ring member containing therein a rotatable balancing member, and having a center axis positioned substantially

concentrically with a rotational center axis of said interchangeable optical disk drive motor,

wherein said balancer reduces vibration due to imbalance of said interchangeable optical disk loaded by a user.

Claim 2, as amended, recites:

An interchangeable optical disk drive motor in an optical disk drive apparatus for recording or reproducing an interchangeable optical disk,

wherein a balancer having a hollow ring member containing therein a balancing member and having a center axis positioned substantially concentrically with a rotational center axis of said interchangeable optical disk drive motor is mounted in integral fashion with a spindle shaft,

wherein said balancer reduces vibration due to imbalance of said interchangeable optical disk loaded by a user.

Yoshitoshi et al. discloses an optical disk player having a movable chassis 2a elastically mounted to a support frame 1. Referring to Figs. 2 and 3, the chassis 2a is connected to the support frame 1 by linear springs 10 as well as by pins 11b extending from the chassis 2a into elastic mounts 11 attached to a side plate 7 of the support frame 1. The optical disk player includes a turntable 3a, which is mounted to and driven by a motor 3 mounted to the chassis 2a. The invention of Yoshitoshi is disclosed to be intended for use in mobile applications. For example, see Column 1, lines 5-8:

The present invention relates to an optical disk player having an improved vibration isolation characteristic and suitable for use in a moving object, such as an automobile, an aircraft or the like.

Hannah et al. discloses a counterbalancing apparatus 10 having annual races or grooves 11, 12, 13, 14, 15 in which a plurality of weights 21, 22, 23, 24, 25, generally in the form of spherical balls, are mounted. The balls 21-25 are freely moveable in their respective races 11-15 about the circumference of the counterbalancing apparatus 10. The counterbalancing apparatus 10 is installed on a rotatable shaft 32 so that, if any out-of-balance condition occurs, the balls 21-

25 move within each of the races 11-15 and act to counterbalance the out-of-balance condition. Specific applications of the counterbalancing apparatus 10 are disclosed as being for a clothes-containing cylinder or “spin basket” 400 of an ordinary washing machine (Fig. 15A), the rear end of a vehicle 500 such as a race car (Fig. 16), and a crankshaft 600 for a combustion engine (Fig. 17).

The rejection of claims 1 and 2 is traversed on the grounds that the proposed combination is unsupported. Yoshitoshi et al. and Hannah et al. are not properly combinable under U.S.C. § 103(a) to render claims 1 and 2 obvious. It is well settled that when making a rejection under 35 U.S.C. § 103(a), the Examiner has the burden of establishing a *prima facie* case of obviousness. The Examiner can satisfy this burden only by showing an objective teaching in the prior art, or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the teachings of the references in the manner suggested by the Examiner. In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching, suggestion or incentive supporting the combination. In re Geiger, 2 U.S.P.Q.2d 1276, 1278 (Fed. Cir. 1987). Prior art references taken in combination do not make an invention obvious unless something in the particular prior art references would suggest the advantages to be derived from combining the teachings of the references. In re Sernaker, 217 U.S.P.Q. 1, 6 (Fed. Cir. 1983). The mere fact that the prior art could be modified in the manner proposed by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification. Ex parte Dussaud, 7 U.S.P.Q.2d 1818, 1820 (PTO Bd.P.App.&Int. 1988). As the Court of Appeals for the Federal Circuit points out, it is impermissible to use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. Fine, 5 U.S.P.Q.2d at 1600. “Something in the prior art as a whole must suggest the desirability, and thus the obviousness of [the invention].” Uniroyal Inc. v. Rudkin-Wiley Corp., 5 U.S.P.Q.2d 1434, 1438 (Fed. Cir. 1988) (emphasis added). See M.P.E.P. § 2143.

Applicants respectfully submit that the proposed combination is improper, as there is no teaching, suggestion or motivation for the proposed combination in either the references

themselves or in the knowledge generally available to the artisan. There is no specific objective teaching identified by the Examiner in Yoshitoshi et al. or Hannah et al. that would lead the artisan to combine the counterbalancing apparatus of Hannah et al with the motor of the optical disk player of Yoshitoshi et al. Furthermore, Applicants respectfully submit that the artisan would clearly have no motivation to combine the counterbalancing apparatus of Hannah et al. with the motor of the optical disk player of Yoshitoshi et al. Based on the disclosures of Yoshitoshi et al. and Hannah et al., the artisan would not recognize any motivation to incorporate the relatively large counterbalancing apparatus of Hannah et al. for use in large mechanical devices such as washer tubs, vehicle axles, and internal combustion engines with the motor of the optical disk player of Yoshitoshi et al., intended for rotating an optical disk for sophisticated, precise optical disk reading in demanding mobile applications.

Moreover, neither Yoshitoshi et al. nor Hannah et al. recognize the nature of the problem solved by the present invention, and, therefore, the combination proposed by the Examiner is improper. More specifically, a person of ordinary skill in the art would not have been motivated to make the proposed combination because the prior art does not recognize the problem solved by the present invention. At the time of the present invention, the state of the art in disk drive apparatuses was generally a 4-speed or 6-speed disk drive. With the relatively low rotational speed of the disk drive apparatuses at that time, vibration and noise resulting from interchangeable disks of non-uniform thicknesses were not great enough to affect the apparatuses and data transfer. It was only due to the foresight of the Applicants that they recognized that, if the speed of disk drive apparatuses were to increase in the future, the increasing rotational speed of imbalanced interchangeable optical disks would eventually result in vibration and noise great enough to adversely affect the performance of these disk drive apparatuses. This foresight led Applicants to develop the interchangeable optical disk drive motor for a disk drive apparatus of the present invention having a balancer for reducing vibration due to imbalance of interchangeable optical disks loaded by the user.

Neither Yoshitoshi et al. nor Hannah et al. addresses or even recognizes the problem of vibration and noise caused by imbalanced interchangeable optical disks rotated at high speeds by

disk drive apparatuses. Because, as stated above, the vibration and noise at these lower speeds had not yet become a problem, at the time of the present invention, Yoshitoshi et al. and Hannah et al. could not have recognized the problem. Therefore, without a problem to be solved, there is no motivation to combine the references as proposed by the Examiner. That is, the ordinary skilled artisan would not recognize any motivation to combine the balancing apparatus of Hannah et al. with the disk drive apparatus of Yoshitoshi et al.

Additionally, copying of Applicants' invention by others is evidence of non-obviousness of the present invention. Although more than mere copying by an accused infringer must be shown to be strong evidence of non-obviousness, copying by other competitors, especially in an industry which generally respects patents, is significant objective evidence of non-obviousness. Cable Electric Products, Inc. v. Genmark, Inc. 770 F.2d 1015, 1027-8 (Fed. Cir. 1985). The fact that, after Applicants developed the present invention and filed the instant priority application, others, namely Applicants' competitors, began developing devices to reduce vibration caused by imbalanced interchangeable disks in disk drive apparatuses provides evidence of non-obviousness of the present invention. Specifically, Japanese Unexamined Publication Nos. 10-92093, 10-124984, and 10-172272, all of which are assigned to Applicants' competitors, each disclose various devices for reducing vibrations in disk drive apparatuses caused by optical disks of non-uniform thicknesses.

Furthermore, with regard to the Examiner's Official Notice, Applicants have deleted the recitations in claims 1 and 2 for which the Examiner takes Official Notice.

In view of the foregoing remarks, Applicants respectfully submit that the proposed combination of prior art references with respect to claims 1 and 2 is not proper. Applicants submit that a prima facie case for obviousness has not been met, and Applicants accordingly request that the rejection of claims 1 and 2 under 35 U.S.C. § 103(a) be withdrawn.

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CONCLUSION

In view of the foregoing Amendment and Remarks, Applicants respectfully submit that the present application, including claims 1 and 2, as amended, is in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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Enclosure: Petition for Extension of Time (two-month)